

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LOON POND	Lake Area (ha): 7.49
Town: LINCOLN	Maximum depth (m): 19.5
County: Grafton	Mean depth (m): 6.1
River Basin: Merrimack	Volume (m ³): 456500
Latitude: 44°02'10" N	Relative depth: 6.1
Longitude: 71°38'07" W	Shore configuration: 1.49
Elevation (ft): 2410	Areal water load (m/yr): 58.95
Shore length (m): 1450	Flushing rate (yr ⁻¹): 9.70
Watershed area (ha): 621.6	P retention coeff.: 0.33
% watershed ponded: 0.0	Lake type: natural w/dam

BIOLOGICAL:

2 March 1998

11 August 1997

DOM. PHYTOPLANKTON (% TOTAL)	#1	NONE OBSERVED	DINOBRYON 70%
	#2		
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			2.51
DOM. ZOOPLANKTON (% TOTAL)	#1	CALANOID COPEPOD 69%	CALANOID COPEPOD 40%
	#2	KERATELLA 15%	KERATELLA 29%
	#3		
ROTIFERS/LITER		4	22
MICROCRUSTACEA/LITER		9	20
ZOOPLANKTON ABUNDANCE (#/L)		13	42
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			5.0
BOTTOM DISSOLVED OXYGEN (mg/L)		3.0	6.7
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 5.0
Hypolimnion volume (m³) : 108500
Anoxic volume (m³) : None

CHEMICAL:

Lake: LOON POND

Town: LINCOLN

	2 March 1998		11 August 1997		
DEPTH (m)	6.0	12.0	2.0	5.0	16.0
pH (units)	5.4	5.4	5.4	5.4	5.3
A.N.C. (Alkalinity)	0.8	0.9	0.2	0.5	1.3
NITRATE NITROGEN	0.17	0.13	0.14		0.13
TOTAL KJELDAHL NITROGEN	0.10	0.10	0.20	0.10	0.40
TOTAL PHOSPHORUS	0.007	0.005	0.049	0.059	0.007
CONDUCTIVITY (μ mhos/cm)	19.8	19.4	18.0	17.9	20.0
APPARENT COLOR (cpu)	17	15	9	14	27
MAGNESIUM			0.21		
CALCIUM			1.2		
SODIUM			1.0		
POTASSIUM			0.30		
CHLORIDE	2	< 2	< 2		< 2
SULFATE	4	4	4		3
TN : TP	39	46	7		76
CALCITE SATURATION INDEX			6.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1997

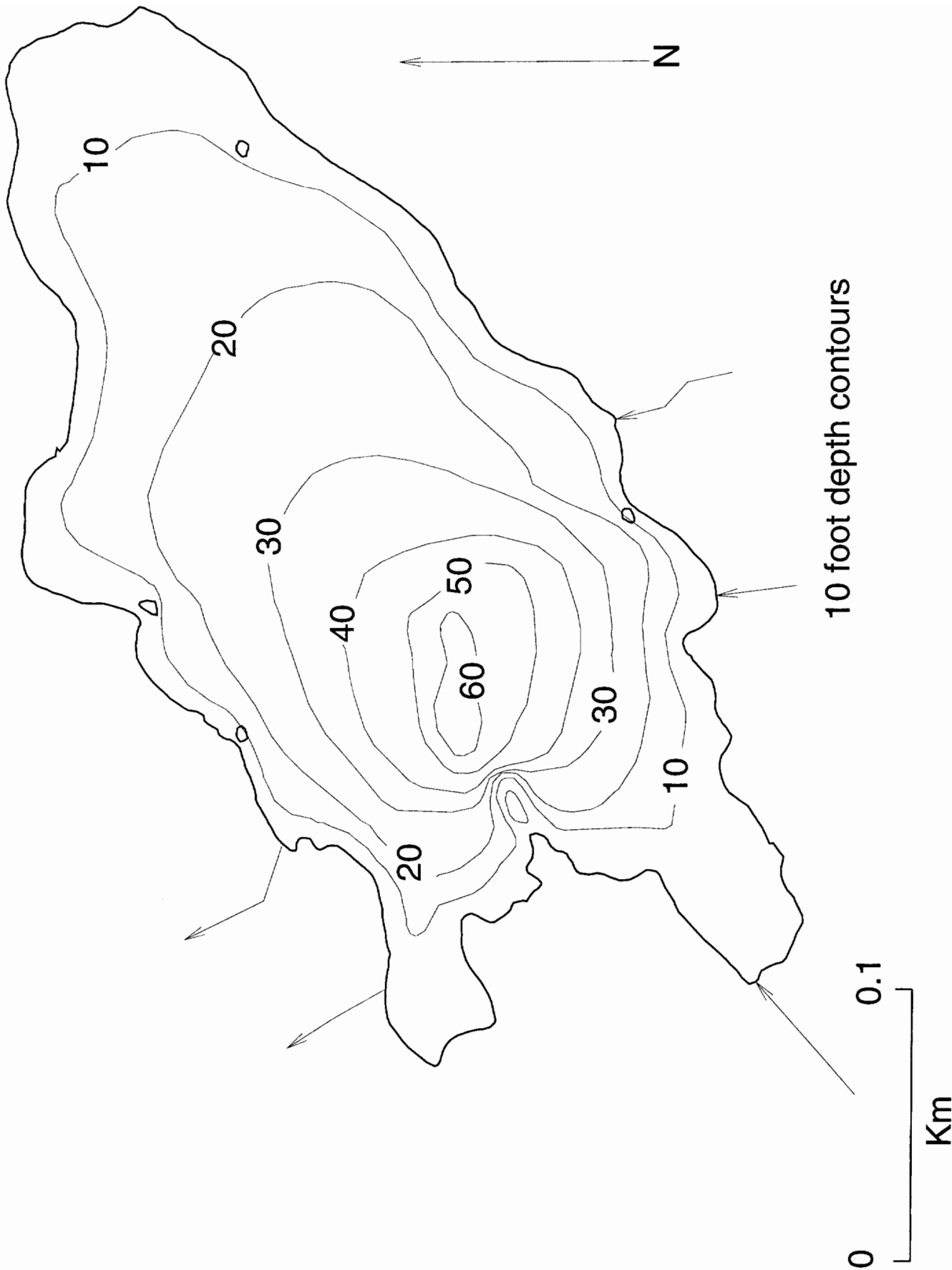
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	2	1	0	3	Oligo.

COMMENTS:

1. Also know as Big Loon Pond.
2. A partial survey of Loon pond was conducted in 1980 as part of a cooperative fish and water quality survey effort with NH Fish & Game. No fish were netted in 24 hours. There was little change in water quality between the two dates except the total phosphorus levels were much higher in 1997 in the upper two layers.
3. The chlorophyll was very low relative to the phosphorus concentrations, suggesting that phytoplankton growth was limited by something other than phosphorus in Loon Pond. The source of the high phosphorus values are not known (mostly forested watershed), and are considered suspect.
4. This is a deep, crystal clear, acidic, low productivity, alpine pond, located in the White Mountain National Forest. Dissolved oxygen was plentiful from surface to bottom.
5. This pond has been subject to water level fluctuations as a public water supply for the Town of Lincoln. It was proposed, but denied, to be used as a water source for snow making at the Loon ski area.

Loon Pond

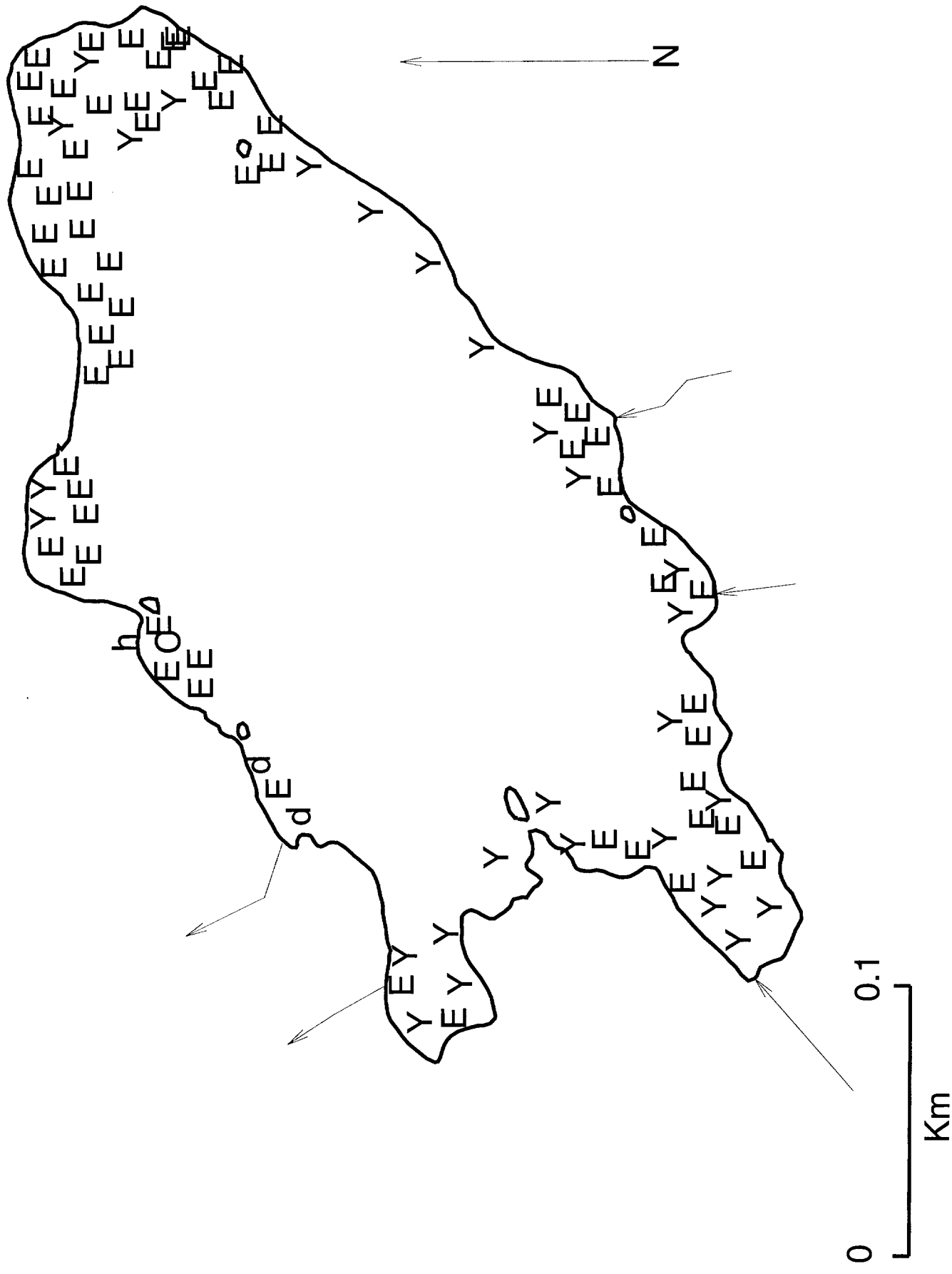
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Loon Pond

Lincoln



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